WHAT IS CLAIMED IS:

1. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:

a probe having a proximal end and a distal end;

a surgical end effector disposed adjacent the distal end of the probe;

an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and

circuitry mounted on the probe, the circuitry defining a signal for transmitting to the processor so as to indicate compatibility of the tool with the system.

2. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:

a probe having a proximal end and a distal end;

a surgical end effector disposed adjacent the distal end of the probe;

an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder;

circuitry mounted on the probe, the circuitry defining a signal for transmitting to the processor so as to indicate compatibility of the tool with the system; and

a sterile adapter releasably mounted to the tool holder, the adapter coupling the tool holder to the interface, wherein the circuitry transmits the signal to the processor of the robotic surgical system via the adapter.

3. The robotic surgical tool of claim 1, wherein the signal comprises unique tool identifier data.

4. The robotic surgical tool of claim 1, wherein the probe body comprises an elongate shaft suitable for distal insertion via a minimally invasive aperture to an internal surgical site of a patient body.

5. The robotic surgical tool of claim 4, wherein the end effector is adapted for manipulating tissue, and further comprising a wrist joint coupling the end effector to the shaft for varying an orientation of the end effector within the internal surgical site.

6. The robotic surgical tool of claim 1, wherein the end effector defines a field of view, the probe comprising an image capture device.

7. A robotic surgical component for use in a robotic surgical system having a processor and a component holder, the component comprising:

a component body having an interface mountable to the component holder, the body supporting a surgical end effector;

a drive system coupled to the body, the drive system moving the end effector in response to commands from the processor; and

circuitry mounted on the body, the circuitry defining a signal for transmitting to the processor, the signal comprising at least one member selected from the group consisting of compatibility of the component with the system, a component-type of the component, coupling of the component to the system, and calibration of the component.

8. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:

a probe having a proximal end and a distal end;

a surgical end effector disposed adjacent the distal end of the probe;

an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and

circuitry mounted on the probe, the circuitry transmitting a signal via the interface to the processor so as to indicate a tool-type of the tool.

9. The tool of claim 8, further comprising at least one joint disposed between the interface and end effector, the joint defining a joint axis geometry, and wherein the signal indicates the joint geometry of the tool to the processor.

10. The tool of claim 8, wherein the end effector has a strength, and wherein the signal indicates the strength of the end effector to the processor.

11. A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:

a probe having a proximal end and a distal end;

a surgical end effector disposed adjacent the distal end of the probe;

an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and

circuitry mounted on the probe, the circuitry transmitting a signal via the interface to the processor so as to indicate tool calibration offsets of the tool.

12. The robotic surgical tool of claim 3, wherein the signal further indicates at least one of tool life and cumulative tool use by a measurement selected from the group consisting of calendar date, clock time, number of surgical procedures, number of times the tool has been coupled to the system, and number of end effector actuations.